

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended): A fuel tank tester utilizing an external source of pressure for testing purposes comprising means for connecting the external source of pressure to said fuel tank tester, means for connecting said fuel tank tester to the fuel tank being tested, means for determining the pressure within the fuel tank being tested, a reference orifice contained within ~~with~~ said fuel tank tester, means for directing gas from the fuel tank to said reference orifice, means for determining the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through any leaks which might exist in the fuel tank and the time required for the pressure within the fuel tank to decay, between predetermined pressure levels, through the combination of any leaks which might exist in the fuel tank and said reference orifice when said means for directing gas from the fuel tank to said reference orifice is actuated, and means for comparing said times determined by said time determining means with predetermined rationometric time relationships for said pressure decays to occur in order to determine whether the fuel tank has an acceptable leakage rate.

2. (Previously canceled).

3. (Previously canceled).

4. (Original) The tester as defined in claim 1 wherein said pressure determining means is fluidically connected to the fuel tank.

5. (Previously amended) The tester as defined in claim 1 further including a microprocessor to control said means for directing gas from the fuel tank to said reference orifice.

6. (Original) The tester as defined in claim 5 further including means for comparing a pressure value determined by said pressure determining means with a predetermined pressure value and means for producing an output signal in response to said comparison.

7. (Previously canceled).

8. (Previously canceled).

9. (Currently amended): A method for testing a fuel tank utilizing a fuel tank tester connected to the fuel tank to be tested and having a reference orifice contained therein, said method comprising the steps of:

- a) Pressurizing the fuel tank by utilizing an external source of pressure;
- b) Allowing pressure within the fuel tank to stabilize at a predetermined first pressure;
- c) Actuating a timer when said pressure within the fuel tank has stabilized at said predetermined first pressure;
- d) Allowing gas from the fuel tank to decay through any leaks which might exist in the fuel tank until a predetermined second pressure has been reached;

- e) Storing the elapsed time on the timer; and
- f) Comparing said elapsed time on the timer with a predetermined time for said pressure decay to occur in order to determine whether the fuel tank has an acceptable leakage rate.

10. (Previously amended): The method as defined in claim 9 further including, after step f), the following steps:

- g) Repressurizing the fuel tank by utilizing an external source of pressure;
- h) Allowing pressure within the fuel tank to stabilize at said predetermined first pressure;
- i) Actuating said timer when said pressure within the fuel tank has stabilized at said predetermined first pressure;
- j) Allowing gas from the fuel tank to pass through the combination of any leaks which might exist in the fuel tank and said reference orifice contained in said fuel tank tester until a predetermined third pressure has been reached;
- k) Storing the elapsed time on the timer and stopping gas flow through said reference orifice;
- l) Repressurizing the fuel tank by utilizing the external source of pressure;
- m) Allowing pressure within the fuel tank to stabilize at said predetermined first pressure;

- n) Actuating said timer when said pressure within the fuel tank has stabilized at said predetermined first pressure;
- o) Allowing gas from the fuel tank to decay through any leaks which might exist in the fuel tank until said predetermined third pressure has been reached;
- p) Storing the elapsed time on the timer; and
- q) Comparing the ratio of the stored time in step p) with the stored time in step k) against a predetermined standard ratio to determine whether the fuel tank under test has an acceptable leakage rate.

11. (Previously amended): A method for testing a fuel tank utilizing a fuel tank tester connected to the fuel tank to be tested and having a reference orifice contained therein, said method comprising the steps of:

- a) Pressurizing the fuel tank by utilizing an external source of pressure;
- b) Allowing pressure within the fuel tank to stabilize at a predetermined first pressure;
- c) Actuating a timer when said pressure within the fuel tank has stabilized at said predetermined first pressure;
- d) Allowing gas from the fuel tank to pass through the combination of any leaks which might exist in the fuel tank and a said

reference orifice contained in said fuel tank tester until a predetermined second pressure has been reached;

- e) Storing the elapsed time on the timer and stopping gas flow through said reference orifice;
- f) Repressurizing the fuel tank by utilizing the external source of pressure;
- g) Allowing gas within the fuel tank to stabilize at said predetermined first pressure;
- h) Actuating said timer when said pressure within the fuel tank has stabilized at said predetermined first pressure;
- i) Allowing gas from the fuel tank to decay through any leaks which might exist in the fuel tank until said predetermined second pressure has been reached;
- j) Storing the elapsed time on the timer; and
- k) Comparing the ratio of the stored time in step e) with the stored time in step j) against a predetermined standard ratio to determine whether the fuel tank has an acceptable leakage rate.